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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/479,708	01/07/2000	ALLEN P MILLS JR.	MILLS-11	3424

26345 7590 10/25/2002

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EXAMINER

WARREN, MATTHEW E

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 10/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/479,708

Applicant(s)

MILLS, ALLEN P

Examiner

Matthew E. Warren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the After Final Amendment filed September 25, 2002.

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18, 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Prior Art Figure 1 (APAF 1) in view of Ishiyama et al. (US 5,627,457).

The APAF 1 discloses (pg. 2, line 22 – pg. 4, line 5) a ROM device having a temperature compensation circuit comprising a feedback resistor in which the conductivity is responsive to changes in temperature and a voltage coupled to input word lines (28). The electrical conductive properties of the feedback resistor are the same as the electrical conductive properties of data resistors (30) in the circuit. The ROM uses a plurality of data resistors (points 30) to connect the plurality of input lines

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and output lines (40). The material of the data resistor is polysilicon which could be doped or undoped. APAF 1 does not specify that the resistor is metal oxide but is well known that any material in the realm of semiconductors is resistive material, those resistive materials including metal oxide. Sense amplifiers (42) are coupled to output bit lines (40) wherein the bit lines comprise an operational amplifier having a fixed feedback resistor which is temperature independent. The APAF 1 shows all of the elements of the claims except the temperature compensation circuit having a constant current source coupled to at least one reference resistor and a switch. Ishiyama et al. shows (fig. 5) a crystal display device having a constant current source (8) coupled to a reference resistor (11) to develop a reference voltage across the resistor. Switches (9) are also connected to the reference resistor to couple the voltage the input lines of the device. The reference voltage is responsive to temperature changes (col. 21, lines 45-57). The configuration of the device has a temperature compensation effect and reduced external components for a smaller, less expensive device (col. 22, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the temperature compensation circuit of the APAF 1 by coupling the circuit to a reference resistor using a constant current source a switches as taught by Ishiyama implement a compensation effect and reduced external components for a smaller, less expensive device.

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Claims 19-22, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure 1 (APAF 1) in view of Suzuki et al. (US 5,544,000) and Ishiyama et al. (US 5,627,457).

The APAF 1 discloses (pg. 2, line 22 – pg. 4, line 5) a method of a temperature compensation for ROM device having a temperature compensation circuit comprising a feedback resistor in which the conductivity is responsive to changes in temperature and a voltage coupled to input word lines (28). The electrical conductive properties of the feedback resistor are the same as the electrical conductive properties of data resistors (30) in the circuit. The ROM uses a plurality of data resistors (points 30) to connect the plurality of input lines and output lines (40). The material of the data resistor is polysilicon which could be doped or undoped. Sense amplifiers are coupled to output bit lines (40) wherein the bit lines comprise an operational amplifier having a fixed feedback resistor which is temperature independent. The APAF 1 shows all of the elements of the claims except the method of maintaining the current comprising supplying the reference voltage to input lines by supplying a constant current to the reference resistor wherein the reference voltage is responsive to a change in temperature. Suzuki et al. discloses (col. 6, lines 20-35) a sensor comprising a method of maintaining a constant current in a temperature compensation circuit by supplying a reference voltage to input lines and the reference voltage is responsive to a change in temperature. None of the references disclose the method of supplying the reference voltage through a switch. Ishiyama et al. discloses (col. 17, lines 56-col. 18, lines 9 and fig. 5) switches (9) connected to a constant current source (8) to vary the current and

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regulate the generated voltage. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of maintaining the temperature compensation circuit of the APAF 1 by supplying a reference voltage that is responsive to a change in temperature as taught by Suzuki to supply a constant current and ultimately reduce errors resulting from temperature changes. Furthermore, it would have been obvious to add switches to the circuit as taught by Ishiyama to vary the current and regulate the voltage generated by the current source.

Response to Arguments

Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (703) 305-0760. The examiner can normally be reached on Mon-Thurs, and alternating Fri, 9:00-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MEW

October 23, 2002



EDDIE LEE
SUPERVISOR/TECHNICAL EXAMINER
TECHNOLOGY CENTER 2800